Attachment to Amendment and Reply dated May 6, 2002

Mark-up of Claim 1

1. (Amended) A process for detecting a complementary DNA fragment which comprises the steps of:

bringing single-stranded sample DNA fragments having a radioactive label in a liquid phase into contact with a DNA micro-array having a support and at least two defined areas in each of which a group of probe compounds selected from the group consisting of DNA molecules, DNA fragments, synthesized oligonucleotides, synthesized polynucleotides, and PNA (peptide nucleic acid), [nucleotide derivatives and analogues thereof] are fixed under such condition that a group of the probe compounds [nucleotide derivatives and analogues thereof] fixed in one area differs from a group of the probe compounds [nucleotide derivatives and analogues thereof] fixed in another area, so that DNA fragments complementary to a group of the probe compounds [nucleotide derivatives and analogues thereof] are fixed by hybridization to the area in which the last-mentioned group is fixed;

removing unfixed sample DNA fragments from the DNA micro-array;

keeping the DNA micro-array in contact with a radiation image storage panel containing a stimulable phosphor via a spacer sheet having openings in areas corresponding to the areas on which groups of the probe compounds [nucleotide derivatives or analogues thereof] are fixed, so that the stimulable phosphor sheet can absorb and store radiation energy of the radioactive label coming from the fixed DNA fragments through the openings;

irradiating the radiation image storage panel with a stimulating light, so that the image storage panel releases a stimulated emission from the area in which the radiation energy is stored;

detecting the stimulated emission photoelectrically to obtain a series of electric signals; and

processing the electric signals to locate the area in which the complementary DNA fragments are fixed.